

SEQUENCE LISTING

<110> WEI, Ming-Hui, et al

<120> ISOLATED HUMAN KINASE PROTEINS, NUCLEIC
ACID MOLECULES ENCODING HUMAN KINASE PROTEINS, AND USES
THEREOF

<130> CL000927-CIP-DIV2

<140> To be assigned

<141> 2003-10-31

<150> 10/274,978

<151> 2002-10-22

<150> 09/858,664

<151> 2001-05-17

<150> 09/711,134

<151> 2000-11-14

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<170> FastSEQ for Windows Version 4.0

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<212> DNA

<213> Homo sapiens

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Ala Gln Thr Gly Gly Thr Ala Gln Phe Glu Ala Ile Ile Glu Gly Asp
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Pro Gln Pro Ser Val Thr Trp Tyr Lys Asp Ser Val Gln Leu Val Asp
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Ser Thr Arg Leu Ser Gln Gln Gln Glu Gly Thr Thr Tyr Ser Leu Val
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Leu Arg His Val Ala Ser Lys Asp Ala Gly Val Tyr Thr Cys Leu Ala
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Gln Asn Thr Gly Gly Gln Val Leu Cys Lys Ala Glu Leu Leu Val Leu
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Gly Gly Asp Asn Glu Pro Asp Ser Glu Lys Gln Ser His Arg Arg Lys
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Leu His Ser Phe Tyr Glu Val Lys Glu Glu Ile Gly Arg Gly Val Phe
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Gly Phe Val Lys Arg Val Gln His Lys Gly Asn Lys Ile Leu Cys Ala
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Ala Lys Phe Ile Pro Leu Arg Ser Arg Thr Arg Ala Gln Ala Tyr Arg
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Glu Arg Asp Ile Leu Ala Ala Leu Ser His Pro Leu Val Thr Gly Leu
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Thr Glu Ala Glu Val Lys Val Tyr Ile Gln Gln Leu Val Glu Gly Leu
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His Tyr Leu His Ser His Gly Val Leu His Leu Asp Ile Lys Pro Ser
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Asn Ile Leu Met Val His Pro Ala Arg Glu Asp Ile Lys Ile Cys Asp
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Phe Gly Phe Ala Gln Asn Ile Thr Pro Ala Glu Leu Gln Phe Ser Gln
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Tyr Gly Ser Pro Glu Phe Val Ser Pro Glu Ile Ile Gln Gln Asn Pro
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Arg	Ala	Pro	Gln	Ala	Arg	Pro	Ser	Ala	Ala	Gln	Cys	Leu	Ser	His	Pro	405	410	415
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Lys	Gln	Leu	Lys	Phe	Leu	Leu	Ala	Arg	Ser	Arg	Trp	Gln	Arg	Ser	Leu	435	440	445
Met	Ser	Tyr	Lys	Ser	Ile	Leu	Val	Met	Arg	Ser	Ile	Pro	Glu	Leu	Leu	450	455	460
Arg	Gly	Pro	Pro	Asp	Ser	Pro	Ser	Leu	Gly	Val	Ala	Arg	His	Leu	Cys	465	470	475
Arg	Asp	Thr	Gly	Gly	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Asp	Asn	Glu	485	490	495
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His	Ser	Pro	Leu	Leu	His	Pro	Arg	Gly	Phe	Leu	Arg	Pro	Ser	Ala	Ser	515	520	525
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Pro	Pro	Ala	Ser	Pro	Glu	Gly	Ala	Gly	Pro	Pro	Ala	Ala	Gln	Gly	Cys	545	550	555
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Glu	Ser	Pro	Glu	His	Gly	Ala	Leu	Ala	Pro	Gly	Ser	Arg	Arg	His	Pro	580	585	590
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<211> 846

<212> PRT

<213> Homo sapiens

<400> 4

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Met Trp Tyr Lys Asp Glu Val Leu Leu Thr Glu Ser Ser His Val Ser
 35           40           45
Phe Val Tyr Glu Glu Asn Glu Cys Ser Leu Val Val Leu Ser Thr Gly
 50           55           60
Ala Gln Asp Gly Gly Val Tyr Thr Cys Thr Ala Gln Asn Leu Ala Gly
 65           70           75           80
Glu Val Ser Cys Lys Ala Glu Leu Ala Val His Ser Ala Gln Thr Ala
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Met Glu Val Glu Gly Val Gly Glu Asp Glu Asp His Arg Gly Arg Arg

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Glu	Ala	Arg	Leu	Leu	Ala	Arg	Leu	Gln	His	Asp	Cys	Val	Leu	Tyr	Phe
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His	Glu	Ala	Phe	Glu	Arg	Arg	Arg	Gly	Leu	Val	Ile	Val	Thr	Glu	Leu
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Cys	Thr	Glu	Glu	Leu	Leu	Glu	Arg	Ile	Ala	Arg	Lys	Pro	Thr	Val	Cys
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Thr	Leu	Met	Asn	Ile	Arg	Asn	Tyr	Asn	Val	Ala	Phe	Glu	Glu	Thr	Thr
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Phe	Leu	Ser	Leu	Ser	Arg	Glu	Ala	Arg	Gly	Phe	Leu	Ile	Lys	Val	Leu
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Trp	Phe	Lys	Thr	Gln	Ala	Lys	Gly	Ala	Glu	Val	Ser	Thr	Asp	His	Leu
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Lys	Cys	His	Leu	Val	Leu	Arg	Pro	Ile	Pro	Glu	Leu	Leu	Arg	Ala	Pro
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Thr	Gly	Ala	Ala	Thr	Pro	Met	Asp	Trp	Gln	Glu	Gln	Gly	Arg	Ala	Pro
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 580 585 590
 Gly Gly Pro Glu Asp Gly Lys Val Ser Gly Leu Arg Gly Pro Leu Leu
 595 600 605
 Glu Ser Leu Gly Gly Arg Ala Arg Asp Pro Arg Met Ala Arg Ala Ala
 610 615 620
 Ser Ser Glu Ala Ala Pro His His Gln Pro Pro Leu Glu Asn Arg Gly
 625 630 635 640
 Leu Gln Lys Ser Ser Ser Phe Ser Gln Gly Glu Ala Glu Pro Arg Gly
 645 650 655
 Arg His Arg Arg Ala Gly Ala Pro Leu Glu Ile Pro Val Ala Arg Leu
 660 665 670
 Gly Ala Arg Arg Leu Gln Glu Ser Pro Ser Leu Ser Ala Leu Ser Glu
 675 680 685
 Ala Gln Pro Ser Ser Pro Ala Arg Pro Ser Ala Pro Lys Pro Ser Thr
 690 695 700
 Pro Lys Ser Ala Glu Pro Ser Ala Thr Thr Pro Ser Asp Ala Pro Gln
 705 710 715 720
 Pro Pro Ala Pro Gln Pro Ala Gln Asp Lys Ala Pro Glu Pro Arg Pro
 725 730 735
 Glu Pro Val Arg Ala Ser Lys Pro Ala Pro Pro Pro Gln Ala Leu Gln
 740 745 750
 Thr Leu Ala Leu Pro Leu Thr Pro Tyr Ala Gln Ile Ile Gln Ser Leu
 755 760 765
 Gln Leu Ser Gly His Ala Gln Gly Pro Ser Gln Gly Pro Ala Ala Pro
 770 775 780
 Pro Ser Glu Pro Lys Pro His Ala Ala Val Phe Ala Arg Val Ala Ser
 785 790 795 800
 Pro Pro Pro Gly Ala Pro Glu Lys Arg Val Pro Ser Ala Gly Gly Pro
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 Pro Val Leu Ala Glu Lys Ala Arg Val Pro Thr Val Pro Pro Arg Pro
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 835 840 845

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 <212> PRT
 <213> Homo sapiens

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 35 40 45
 Arg Ala Cys Arg Glu Asn Ala Thr Gly Arg Thr Phe Val Ala Lys Ile
 50 55 60
 Val Pro Tyr Ala Ala Glu Gly Lys Pro Arg Val Leu Gln Glu Tyr Glu
 65 70 75 80
 Val Leu Arg Thr Leu His His Glu Arg Ile Met Ser Leu His Glu Ala
 85 90 95
 Tyr Ile Thr Pro Arg Tyr Leu Val Leu Ile Ala Glu Ser Cys Gly Asn

Thr Gly Ala Gln Asp Gly Gly Val Tyr Thr Cys Thr Ala Gln Asn Leu
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 Ala Gly Glu Val Ser Cys Lys Ala Glu Leu Ala Val His Ser Ala Gln
 225 230 235 240
 Thr Ala Met Glu Val Glu Gly Val Gly Glu Asp Glu Asp His Arg Gly
 245 250 255
 Arg Arg Leu Ser Asp Phe Tyr Asp Ile His Gln Glu Ile Gly Arg Gly
 260 265 270
 Ala Phe Ser Tyr Leu Arg Arg Ile Val Glu Arg Ser Ser Gly Leu Glu
 275 280 285
 Phe Ala Ala Lys Phe Ile Pro Ser Gln Ala Lys Pro Lys Ala Ser Ala
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 Arg Arg Glu Ala Arg Leu Leu Ala Arg Leu Gln His Asp Cys Val Leu
 305 310 315 320
 Tyr Phe His Glu Ala Phe Glu Arg Arg Arg Gly Leu Val Ile Val Thr
 325 330 335
 Glu Leu Cys Thr Glu Glu Leu Leu Glu Arg Ile Ala Arg Lys Pro Thr
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 Val Cys Glu Ser Glu Ile Arg Ala Tyr Met Arg Gln Val Leu Glu Gly
 355 360 365
 Ile His Tyr Leu His Gln Ser His Val Leu His Leu Asp Val Lys Pro
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 Glu Asn Leu Leu Val Trp Asp Gly Ala Ala Gly Glu Gln Gln Val Arg
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 Tyr Cys Gln Tyr Gly Thr Pro Glu Phe Val Ala Pro Glu Ile Val Asn
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 His Pro Trp Phe Lys Thr Gln Ala Lys Gly Ala Glu Val Ser Thr Asp
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 Ser Tyr Lys Cys His
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Ile Pro Asp Cys Tyr Tyr Asn Val Thr His Leu Pro Val Gly Val Thr
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 Val Arg Phe Arg Val Ala Cys Ala Asn Arg Ala Gly Gln Gly Pro Phe
 195 200 205
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 225 230 235 240
 Ala Arg Ala Arg Pro
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 <211> 111
 <212> PRT
 <213> Homo sapiens

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 35 40 45
 Leu His Ser Leu His Ile Ala His Val Gly Ser Glu Asp Glu Gly Leu
 50 55 60
 Tyr Ala Val Ser Ala Val Asn Thr His Gly Gln Ala His Cys Ser Ala
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 Gln Leu Tyr Val Glu Glu Pro Arg Thr Ala Ala Ser Gly Pro Ser Ser
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 Lys Leu Glu Lys Met Pro Ser Ile Pro Glu Glu Pro Glu Gln Gly
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 35 40 45
 Met Thr Gln Tyr Arg Asp Val His Arg Leu Val Phe Pro Ala Val Gly
 50 55 60
 Pro Gln His Ala Gly Val Tyr Lys Ser Val Ile Ala Asn Lys Leu Gly
 65 70 75 80
 Lys Ala Ala Cys Tyr Ala His Leu Tyr Val Thr Asp Val Val Pro Gly
 85 90 95
 Pro Pro Asp Gly Ala Pro Gln Val Val Ala Val Thr Gly Arg Met Val
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 Thr Leu Thr Trp Asn Pro Pro Arg Ser Leu Asp Met Ala Ile Asp Pro
 115 120 125
 Asp Ser Leu Thr Tyr Thr Val Gln His Gln Val Leu Gly Ser Asp Gln

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Gly Leu Arg Lys Gly Val	Gln His Ile Phe Arg Val	Leu Ser Thr Thr		
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Val Lys Ser Ser Lys	Pro Ser Pro Ser	Glu Pro Val Gln Leu		
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Leu Glu His Gly Pro Thr				
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35 40 45
Arg Leu Arg Gln Asp Gly Gly Leu His Ser Leu His Ile Ala His Val
50 55 60
Gly Ser Glu Asp Glu Gly Leu Tyr Ala Val Ser Ala Val Asn Thr His
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Gly Gln Ala His Cys Ser Ala Gln Leu Tyr Val Glu Glu Pro Arg Thr
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Ala Ala Ser Gly Pro
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35 40 45
Val Thr Val Ser Pro Ser Ser Pro Pro Thr Pro Pro Ser Gln Ala Leu
50 55 60
Ser Ser Leu Lys Ala Val Gly Pro Pro Pro Gln Thr Pro Pro Arg Arg
65 70 75 80
His Arg Gly Leu Gln Ala Ala Arg Pro Ala Glu Pro Thr Leu Pro Ser
85 90 95
Thr His Val Thr Pro Ser Glu Pro Lys Pro Phe Val Leu Asp Thr Gly
100 105 110
Thr Pro Ile Pro Ala Ser Thr Pro Gln Gly Val Lys Pro Val Ser Ser
115 120 125
Ser Thr Pro Val Tyr Val Val Thr Ser Phe Val Ser Ala Pro Pro Ala
130 135 140

Pro Glu Pro Pro Ala Pro Glu Pro Pro Pro Glu Pro Thr Lys Val Thr
 145 150 155 160
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 Ser Pro Arg Ser Ser Pro Arg Pro Glu Gly Thr Thr Leu Arg Gln Gly
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 Pro Pro Gln
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<210> 13
 <211> 90
 <212> PRT
 <213> Homo sapiens

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 35 40 45
 Met Thr Gln Tyr Arg Asp Val His Arg Leu Val Phe Pro Ala Val Gly
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 Lys Ala Ala Cys Tyr Ala His Leu Tyr Val
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 35 40 45
 Tyr Ser Ile Ser Tyr Ser Asp Leu Gly Glu Ala Thr Leu Lys Ile Val
 50 55 60
 Gly Val Thr Thr Glu Asp Asp Gly Ile Tyr Thr Cys Ile Ala Val Asn
 65 70 75 80
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 Gly Met Asp Gly Ile Met Val Thr Trp Lys Asp Asn Phe Asp Ser Phe
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 Tyr Ser Glu Val Ala Glu Leu Gly Arg Gly Arg Phe Ser Val Val Lys
 115 120 125
 Lys Cys Asp Gln Lys Gly Thr Lys Arg Ala Val Ala Thr Lys Phe Val
 130 135 140
 Asn Lys Lys Leu Met Lys Arg Asp Gln Val Thr His Glu Leu Gly Ile
 145 150 155 160
 Leu Gln Ser Leu Gln His Pro Leu Leu Val Gly Leu Leu Asp Thr Phe

Thr Thr Tyr Tyr Ile His Gln Leu Leu Gly Asn Pro Glu Phe Ala Ala
 145 150 155 160
 Pro Glu Ile Ile Leu Gly Asn Pro Val Ser Leu Thr Ser Asp Thr Trp
 165 170 175
 Ser Val Gly Val Leu Thr Tyr Val Leu Leu Ser Gly Val Ser Pro Phe
 180 185 190
 Leu Asp Asp Ser Val Glu Glu Thr Cys Leu Asn Ile Cys Arg Leu Asp
 195 200 205
 Phe Ser Phe Pro Asp Asp Tyr Phe Lys Gly Val Ser Gln Lys Ala Lys
 210 215 220
 Glu Phe Val Cys Phe Leu Leu Gln Glu Asp Pro Ala Lys Arg Pro Ser
 225 230 235 240
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 260 265 270
 Arg Lys

<210> 16
 <211> 141
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 <213> Homo sapiens

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 Tyr Asp Val Pro Pro Glu Phe Val Ile Pro Leu Ser Glu Val Thr Cys
 35 40 45
 Glu Thr Gly Glu Thr Val Val Leu Arg Cys Arg Val Cys Gly Arg Pro
 50 55 60
 Lys Ala Ser Ile Thr Trp Lys Gly Pro Glu His Asn Thr Leu Asn Asn
 65 70 75 80
 Asp Gly His Tyr Ser Ile Ser Tyr Ser Asp Leu Gly Glu Ala Thr Leu
 85 90 95
 Lys Ile Val Gly Val Thr Thr Glu Asp Asp Gly Ile Tyr Thr Cys Ile
 100 105 110
 Ala Val Asn Asp Met Gly Ser Ala Ser Ser Ala Ser Leu Arg Val
 115 120 125
 Leu Gly Pro Gly Met Asp Gly Ile Met Val Thr Trp Lys
 130 135 140

<210> 17
 <211> 196
 <212> PRT
 <213> Homo sapiens

<400> 17
 Gly Gly Ala Pro Ser Gly Gly Ser Gly His Ser Gly Gly Pro Ser Ser
 1 5 10 15
 Cys Gly Gly Ala Pro Ser Thr Ser Arg Ser Arg Pro Ser Arg Ile Pro
 20 25 30
 Gln Pro Val Arg His His Pro Pro Val Leu Val Ser Ser Ala Ala Ser

35 40 45
 Ser Gln Ala Glu Ala Asp Lys Met Ser Gly Thr Ser Thr Pro Gly Pro
 50 55 60
 Ser Leu Pro Pro Pro Gly Ala Ala Pro Glu Ala Gly Pro Ser Ala Pro
 65 70 75 80
 Ser Arg Arg Pro Pro Gly Ala Asp Ala Glu Gly Ser Glu Arg Glu Ala
 85 90 95
 Glu Pro Ile Pro Lys Met Lys Val Leu Glu Ser Pro Arg Lys Gly Ala
 100 105 110
 Ala Asn Ala Ser Gly Ser Ser Pro Asp Ala Pro Ala Lys Asp Ala Arg
 115 120 125
 Ala Ser Leu Gly Thr Leu Pro Leu Gly Lys Pro Arg Ala Gly Ala Ala
 130 135 140
 Ser Pro Leu Asn Ser Pro Leu Ser Ser Ala Val Pro Ser Leu Gly Lys
 145 150 155 160
 Glu Pro Phe Pro Pro Ser Ser Pro Leu Gln Lys Gly Gly Ser Phe Trp
 165 170 175
 Ser Ser Ile Pro Ala Ser Pro Ala Ser Arg Pro Gly Ser Phe Thr Phe
 180 185 190
 Pro Gly Asp Ser
 195

<210> 18
 <211> 298
 <212> PRT
 <213> Homo sapiens

<400> 18
 Gln Lys Val Ser Asp Phe Tyr Asp Ile Glu Glu Arg Leu Gly Ser Gly
 1 5 10 15
 Lys Phe Gly Gln Val Phe Arg Leu Val Glu Lys Lys Thr Arg Lys Val
 20 25 30
 Trp Ala Gly Lys Phe Phe Lys Ala Tyr Ser Ala Lys Glu Lys Glu Asn
 35 40 45
 Ile Arg Gln Glu Ile Ser Ile Met Asn Cys Leu His His Pro Lys Leu
 50 55 60
 Val Gln Cys Val Asp Ala Phe Glu Glu Lys Ala Asn Ile Val Met Val
 65 70 75 80
 Leu Glu Ile Val Ser Gly Gly Glu Leu Phe Glu Arg Ile Ile Asp Glu
 85 90 95
 Asp Phe Glu Leu Thr Glu Arg Glu Cys Ile Lys Tyr Met Arg Gln Ile
 100 105 110
 Ser Glu Gly Val Glu Tyr Ile His Lys Gln Gly Ile Val His Leu Asp
 115 120 125
 Leu Lys Pro Glu Asn Ile Met Cys Val Asn Lys Thr Gly Thr Arg Ile
 130 135 140
 Lys Leu Ile Asp Phe Gly Leu Ala Arg Arg Leu Glu Asn Ala Gly Ser
 145 150 155 160
 Leu Lys Val Leu Phe Gly Thr Pro Glu Phe Val Ala Pro Glu Val Ile
 165 170 175
 Asn Tyr Glu Pro Ile Ser Tyr Ala Thr Asp Met Trp Ser Ile Gly Val
 180 185 190
 Ile Cys Tyr Ile Leu Val Ser Gly Leu Ser Pro Phe Met Gly Asp Asn
 195 200 205
 Asp Asn Glu Thr Leu Ala Asn Val Thr Ser Ala Thr Trp Asp Phe Asp
 210 215 220

Asp	Glu	Ala	Phe	Asp	Glu	Ile	Ser	Asp	Asp	Ala	Lys	Asp	Phe	Ile	Ser
225					230					235					240
Asn	Leu	Leu	Lys	Lys	Asp	Met	Lys	Asn	Arg	Leu	Asp	Cys	Thr	Gln	Cys
				245					250					255	
Leu	Gln	His	Pro	Trp	Leu	Met	Lys	Asp	Thr	Lys	Asn	Met	Glu	Ala	Lys
			260					265					270		
Lys	Leu	Ser	Lys	Asp	Arg	Met	Lys	Lys	Tyr	Met	Ala	Arg	Arg	Lys	Trp
		275					280					285			
Gln	Lys	Thr	Gly	Asn	Ala	Val	Arg	Ala	Ile						
	290					295									

<210> 19
 <211> 508
 <212> PRT
 <213> Homo sapiens

<400> 19

Gly	Thr	Glu	Ser	Asp	Ala	Thr	Val	Lys	Lys	Lys	Pro	Ala	Pro	Lys	Thr
1				5					10					15	
Pro	Pro	Lys	Ala	Ala	Met	Pro	Pro	Gln	Ile	Ile	Gln	Phe	Pro	Glu	Asp
			20					25					30		
Gln	Lys	Val	Arg	Ala	Gly	Glu	Ser	Val	Glu	Leu	Phe	Gly	Lys	Val	Thr
		35					40					45			
Gly	Thr	Gln	Pro	Ile	Thr	Cys	Thr	Trp	Met	Lys	Phe	Arg	Lys	Gln	Ile
	50					55					60				
Gln	Asp	Ser	Glu	His	Ile	Lys	Val	Glu	Asn	Ser	Glu	Asn	Gly	Ser	Lys
65					70				75					80	
Leu	Thr	Ile	Leu	Ala	Ala	Arg	Gln	Glu	His	Cys	Gly	Cys	Tyr	Thr	Leu
				85				90						95	
Leu	Val	Glu	Asn	Lys	Leu	Gly	Ser	Arg	Gln	Ala	Gln	Val	Asn	Leu	Thr
			100					105					110		
Val	Val	Asp	Lys	Pro	Asp	Pro	Pro	Ala	Gly	Thr	Pro	Cys	Ala	Ser	Asp
		115					120					125			
Ile	Arg	Ser	Ser	Ser	Leu	Thr	Leu	Ser	Trp	Tyr	Gly	Ser	Ser	Tyr	Asp
	130					135					140				
Gly	Gly	Ser	Ala	Val	Gln	Ser	Tyr	Ser	Ile	Glu	Ile	Trp	Asp	Ser	Ala
145					150					155					160
Asn	Lys	Thr	Trp	Lys	Glu	Leu	Ala	Thr	Cys	Arg	Ser	Thr	Ser	Phe	Asn
				165					170					175	
Val	Gln	Asp	Leu	Leu	Pro	Asp	His	Glu	Tyr	Lys	Phe	Arg	Val	Arg	Ala
			180					185					190		
Ile	Asn	Val	Tyr	Gly	Thr	Ser	Glu	Pro	Ser	Gln	Glu	Ser	Glu	Leu	Thr
	195						200						205		
Thr	Val	Gly	Glu	Lys	Pro	Glu	Glu	Pro	Lys	Met	Lys	Trp	Arg	Cys	Gln
	210					215						220			
Thr	Asp	Asp	Glu	Lys	Glu	Pro	Glu	Val	Asp	Tyr	Arg	Thr	Val	Thr	Ile
225					230					235					240
Asn	Thr	Glu	Gln	Lys	Val	Ser	Asp	Phe	Tyr	Asp	Ile	Glu	Glu	Arg	Leu
				245					250					255	
Gly	Ser	Gly	Lys	Phe	Gly	Gln	Val	Phe	Arg	Leu	Val	Glu	Lys	Lys	Thr
			260					265					270		
Arg	Lys	Val	Trp	Ala	Gly	Lys	Phe	Phe	Lys	Ala	Tyr	Ser	Ala	Lys	Glu
		275					280					285			
Lys	Glu	Asn	Ile	Arg	Gln	Glu	Ile	Ser	Ile	Met	Asn	Cys	Leu	His	His
	290					295					300				
Pro	Lys	Leu	Val	Gln	Cys	Val	Asp	Ala	Phe	Glu	Glu	Lys	Ala	Asn	Ile

305 310 315 320
 Val Met Val Leu Glu Ile Val Ser Gly Gly Glu Leu Phe Glu Arg Ile
 325 330 335
 Ile Asp Glu Asp Phe Glu Leu Thr Glu Arg Glu Cys Ile Lys Tyr Met
 340 345 350
 Arg Gln Ile Ser Glu Gly Val Glu Tyr Ile His Lys Gln Gly Ile Val
 355 360 365
 His Leu Asp Leu Lys Pro Glu Asn Ile Met Cys Val Asn Lys Thr Gly
 370 375 380
 Thr Arg Ile Lys Leu Ile Asp Phe Gly Leu Ala Arg Arg Leu Glu Asn
 385 390 395 400
 Ala Gly Ser Leu Lys Val Leu Phe Gly Thr Pro Glu Phe Val Ala Pro
 405 410 415
 Glu Val Ile Asn Tyr Glu Pro Ile Ser Tyr Ala Thr Asp Met Trp Ser
 420 425 430
 Ile Gly Val Ile Cys Tyr Ile Leu Val Ser Gly Leu Ser Pro Phe Met
 435 440 445
 Gly Asp Asn Asp Asn Glu Thr Leu Ala Asn Val Thr Ser Ala Thr Trp
 450 455 460
 Asp Phe Asp Asp Glu Ala Phe Asp Glu Ile Ser Asp Asp Ala Lys Asp
 465 470 475 480
 Phe Ile Ser Asn Leu Lys Lys Asp Met Lys Asn Arg Leu Asp Cys
 485 490 495
 Thr Gln Cys Leu Gln His Pro Trp Leu Met Lys Asp
 500 505

<210> 20
 <211> 106
 <212> PRT
 <213> Homo sapiens

<400> 20
 Pro Tyr Phe Ser Lys Thr Ile Arg Asp Leu Glu Val Val Glu Gly Ser
 1 5 10 15
 Ala Ala Arg Phe Asp Cys Lys Ile Glu Gly Tyr Pro Asp Pro Glu Val
 20 25 30
 Val Trp Phe Lys Asp Asp Gln Ser Ile Arg Glu Ser Arg His Phe Gln
 35 40 45
 Ile Asp Tyr Asp Glu Asp Gly Asn Cys Ser Leu Ile Ile Ser Asp Val
 50 55 60
 Cys Gly Asp Asp Asp Ala Lys Tyr Thr Cys Lys Ala Val Asn Ser Leu
 65 70 75 80
 Gly Glu Ala Thr Cys Thr Ala Glu Leu Ile Val Glu Thr Met Glu Glu
 85 90 95
 Gly Glu Gly Glu Gly Glu Glu Glu Glu Glu
 100 105

<210> 21
 <211> 96
 <212> PRT
 <213> Homo sapiens

<400> 21
 Pro Pro Lys Phe Ala Thr Lys Leu Gly Arg Val Val Val Lys Glu Gly
 1 5 10 15

Gln	Met	Gly	Arg	Phe	Ser	Cys	Lys	Ile	Thr	Gly	Arg	Pro	Gln	Pro	Gln
			20					25					30		
Val	Thr	Trp	Leu	Lys	Gly	Asn	Val	Pro	Leu	Gln	Pro	Ser	Ala	Arg	Val
		35				40					45				
Ser	Val	Ser	Glu	Lys	Asn	Gly	Met	Gln	Val	Leu	Glu	Ile	His	Gly	Val
	50				55					60					
Asn	Gln	Asp	Asp	Val	Gly	Val	Tyr	Thr	Cys	Leu	Val	Val	Asn	Gly	Ser
65					70					75					80
Gly	Lys	Ala	Ser	Met	Ser	Ala	Glu	Leu	Ser	Ile	Gln	Gly	Leu	Asp	Ser
				85					90					95	

<210> 22
 <211> 96
 <212> PRT
 <213> Homo sapiens

Pro	Pro	Lys	Phe	Ala	Thr	Lys	Leu	Gly	Arg	Val	Val	Val	Lys	Glu	Gly
1				5					10					15	
Gln	Met	Gly	Arg	Phe	Ser	Cys	Lys	Ile	Thr	Gly	Arg	Pro	Gln	Pro	Gln
			20					25					30		
Val	Thr	Trp	Leu	Lys	Gly	Asn	Val	Pro	Leu	Gln	Pro	Ser	Ala	Arg	Val
		35				40					45				
Ser	Val	Ser	Glu	Lys	Asn	Gly	Met	Gln	Val	Leu	Glu	Ile	His	Gly	Val
	50				55					60					
Asn	Gln	Asp	Asp	Val	Gly	Val	Tyr	Thr	Cys	Leu	Val	Val	Asn	Gly	Ser
65					70					75					80
Gly	Lys	Ala	Ser	Met	Ser	Ala	Glu	Leu	Ser	Ile	Gln	Gly	Leu	Asp	Ser
				85					90					95	

<210> 23
 <211> 88
 <212> PRT
 <213> Homo sapiens

Pro	Lys	Phe	Ala	Thr	Lys	Leu	Gly	Arg	Val	Val	Val	Lys	Glu	Gly	Gln
1				5					10					15	
Met	Gly	Arg	Phe	Ser	Cys	Lys	Ile	Thr	Gly	Arg	Pro	Gln	Pro	Gln	Val
			20					25					30		
Thr	Trp	Leu	Lys	Gly	Asn	Val	Pro	Leu	Gln	Pro	Ser	Ala	Arg	Val	Ser
		35				40					45				
Val	Ser	Glu	Lys	Asn	Gly	Met	Gln	Val	Leu	Glu	Ile	His	Gly	Val	Asn
	50				55					60					
Gln	Asp	Asp	Val	Gly	Val	Tyr	Thr	Cys	Leu	Val	Val	Asn	Gly	Ser	Gly
65					70					75					80
Lys	Ala	Ser	Met	Ser	Ala	Glu	Leu								
				85											

<210> 24
 <211> 94
 <212> PRT
 <213> Homo sapiens

<400> 24

Ala	Pro	Ser	Phe	Ser	Ser	Val	Leu	Lys	Asp	Cys	Ala	Val	Ile	Glu	Gly
1				5					10					15	
Gln	Asp	Phe	Val	Leu	Gln	Cys	Ser	Val	Arg	Gly	Thr	Pro	Val	Pro	Arg
			20					25					30		
Ile	Thr	Trp	Leu	Leu	Asn	Gly	Gln	Pro	Ile	Gln	Tyr	Ala	Arg	Ser	Thr
		35					40					45			
Cys	Glu	Ala	Gly	Val	Ala	Glu	Leu	His	Ile	Gln	Asp	Ala	Leu	Pro	Glu
	50					55				60					
Asp	His	Gly	Thr	Tyr	Thr	Cys	Leu	Ala	Glu	Asn	Ala	Leu	Gly	Gln	Val
65					70					75				80	
Ser	Cys	Ser	Ala	Trp	Val	Thr	Val	His	Glu	Lys	Lys	Ser	Ser		
				85					90						

<210> 25

<211> 112

<212> PRT

<213> Homo sapiens

<400> 25

Lys	Lys	Ser	Ser	Arg	Lys	Ser	Glu	Tyr	Leu	Leu	Pro	Val	Ala	Pro	Ser
1				5					10					15	
Lys	Pro	Thr	Ala	Pro	Ile	Phe	Leu	Gln	Gly	Leu	Ser	Asp	Leu	Lys	Val
			20					25					30		
Met	Asp	Gly	Ser	Gln	Val	Thr	Met	Thr	Val	Gln	Val	Ser	Gly	Asn	Pro
		35					40					45			
Pro	Pro	Glu	Val	Ile	Trp	Leu	His	Asn	Gly	Asn	Glu	Ile	Gln	Glu	Ser
	50					55				60					
Glu	Asp	Phe	His	Phe	Glu	Gln	Arg	Gly	Thr	Gln	His	Ser	Leu	Trp	Ile
65					70					75				80	
Gln	Glu	Val	Phe	Pro	Glu	Asp	Thr	Gly	Thr	Tyr	Thr	Cys	Glu	Ala	Trp
				85					90					95	
Asn	Ser	Ala	Gly	Glu	Val	Arg	Thr	Gln	Ala	Val	Leu	Thr	Val	Gln	Glu
			100					105					110		

<210> 26

<211> 100

<212> PRT

<213> Homo sapiens

<400> 26

Ser	Met	Pro	Leu	Thr	Glu	Ala	Pro	Ala	Phe	Ile	Leu	Pro	Pro	Arg	Asn
1				5					10					15	
Leu	Cys	Ile	Lys	Glu	Gly	Ala	Thr	Ala	Lys	Phe	Glu	Gly	Arg	Val	Arg
			20					25					30		
Gly	Tyr	Pro	Glu	Pro	Gln	Val	Thr	Trp	His	Arg	Asn	Gly	Gln	Pro	Ile
		35					40					45			
Thr	Ser	Gly	Gly	Arg	Phe	Leu	Leu	Asp	Cys	Gly	Ile	Arg	Gly	Thr	Phe
	50					55				60					
Ser	Leu	Val	Ile	His	Ala	Val	His	Glu	Glu	Asp	Arg	Gly	Lys	Tyr	Thr
65					70					75				80	
Cys	Glu	Ala	Thr	Asn	Gly	Ser	Gly	Ala	Arg	Gln	Val	Thr	Val	Glu	Leu
				85					90					95	
Thr	Val	Glu	Gly												
			100												

<210> 27
 <211> 174
 <212> PRT
 <213> Homo sapiens

<400> 27
 Pro Ser Gly Glu Glu Arg Lys Arg Pro Ala Pro Pro Arg Pro Ala Thr
 1 5 10 15
 Phe Pro Thr Arg Gln Pro Gly Leu Gly Ser Gln Asp Val Val Ser Lys
 20 25 30
 Ala Ala Asn Arg Arg Ile Pro Met Glu Gly Gln Arg Asp Ser Ala Phe
 35 40 45
 Pro Lys Phe Glu Ser Lys Pro Gln Ser Gln Glu Val Lys Glu Asn Gln
 50 55 60
 Thr Val Lys Phe Arg Cys Glu Val Ser Gly Ile Pro Lys Pro Glu Val
 65 70 75 80
 Ala Trp Phe Leu Glu Gly Thr Pro Val Arg Arg Gln Glu Gly Ser Ile
 85 90 95
 Glu Val Tyr Glu Asp Ala Gly Ser His Tyr Leu Cys Leu Leu Lys Ala
 100 105 110
 Arg Thr Arg Asp Ser Gly Thr Tyr Ser Cys Thr Ala Ser Asn Ala Gln
 115 120 125
 Gly Gln Val Ser Cys Ser Trp Thr Leu Gln Val Glu Arg Leu Ala Val
 130 135 140
 Met Glu Val Ala Pro Ser Phe Ser Ser Val Leu Lys Asp Cys Ala Val
 145 150 155 160
 Ile Glu Gly Gln Asp Phe Val Leu Gln Cys Ser Val Arg Gly
 165 170

<210> 28
 <211> 97
 <212> PRT
 <213> Homo sapiens

<400> 28
 Pro Ala Phe Lys Gln Lys Leu Gln Asp Val His Val Ala Glu Gly Lys
 1 5 10 15
 Lys Leu Leu Leu Gln Cys Gln Val Ser Ser Asp Pro Pro Ala Thr Ile
 20 25 30
 Ile Trp Thr Leu Asn Gly Lys Thr Leu Lys Thr Thr Lys Phe Ile Ile
 35 40 45
 Leu Ser Gln Glu Gly Ser Leu Cys Ser Val Ser Ile Glu Lys Ala Leu
 50 55 60
 Leu Glu Asp Arg Gly Leu Tyr Lys Cys Val Ala Lys Asn Asp Ala Gly
 65 70 75 80
 Gln Ala Glu Cys Ser Cys Gln Val Thr Val Asp Asp Ala Pro Ala Ser
 85 90 95
 Glu

<210> 29
 <211> 124
 <212> PRT

<213> Homo sapiens

<400> 29

```
Glu Ser Gln Gly Thr Ala Pro Ala Phe Lys Gln Lys Leu Gln Asp Val
 1              5              10              15
His Val Ala Glu Gly Lys Lys Leu Leu Gln Cys Gln Val Ser Ser
      20              25              30
Asp Pro Pro Ala Thr Ile Ile Trp Thr Leu Asn Gly Lys Thr Leu Lys
      35              40              45
Thr Thr Lys Phe Ile Ile Leu Ser Gln Glu Gly Ser Leu Cys Ser Val
      50              55              60
Ser Ile Glu Lys Ala Leu Leu Glu Asp Arg Gly Leu Tyr Lys Cys Val
65              70              75              80
Ala Lys Asn Asp Ala Gly Gln Ala Glu Cys Ser Cys Gln Val Thr Val
      85              90              95
Asp Asp Ala Pro Ala Ser Glu Asn Thr Lys Ala Pro Glu Met Lys Ser
      100              105              110
Arg Arg Pro Lys Ser Ser Leu Pro Pro Val Leu Gly
      115              120
```

<210> 30

<211> 87

<212> PRT

<213> Homo sapiens

<400> 30

```
Ala Pro Ala Phe Ile Leu Pro Pro Arg Asn Leu Cys Ile Lys Glu Gly
 1              5              10              15
Ala Thr Ala Lys Phe Glu Gly Arg Val Arg Gly Tyr Pro Glu Pro Gln
      20              25              30
Val Thr Trp His Arg Asn Gly Gln Pro Ile Thr Ser Gly Gly Arg Phe
      35              40              45
Leu Leu Asp Cys Gly Ile Arg Gly Thr Phe Ser Leu Val Ile His Ala
      50              55              60
Val His Glu Glu Asp Arg Gly Lys Tyr Thr Cys Glu Ala Thr Asn Gly
65              70              75              80
Ser Gly Ala Arg Gln Val Thr
      85
```

<210> 31

<211> 119

<212> PRT

<213> Homo sapiens

<400> 31

```
Ser Asn Ala Gln Gly Gln Val Ser Cys Ser Trp Thr Leu Gln Val Glu
 1              5              10              15
Arg Leu Ala Val Met Glu Val Ala Pro Ser Phe Ser Ser Val Leu Lys
      20              25              30
Asp Cys Ala Val Ile Glu Gly Gln Asp Phe Val Leu Gln Cys Ser Val
      35              40              45
Arg Gly Thr Pro Val Pro Arg Ile Thr Trp Leu Leu Asn Gly Gln Pro
      50              55              60
Ile Gln Tyr Ala Arg Ser Thr Cys Glu Ala Gly Val Ala Glu Leu His
65              70              75              80
```

Ile Gln Asp Ala Leu Pro Glu Asp His Gly Thr Tyr Thr Cys Leu Ala
85 90 95
Glu Asn Ala Leu Gly Gln Val Ser Cys Ser Ala Trp Val Thr Val His
100 105 110
Glu Lys Lys Ser Ser Arg Lys
115

<210> 32
<211> 98
<212> PRT
<213> Homo sapiens

<400> 32
Gly Gln Arg Asp Ser Ala Phe Pro Lys Phe Glu Ser Lys Pro Gln Ser
1 5 10 15
Gln Glu Val Lys Glu Asn Gln Thr Val Lys Phe Arg Cys Glu Val Ser
20 25 30
Gly Ile Pro Lys Pro Glu Val Ala Trp Phe Leu Glu Gly Thr Pro Val
35 40 45
Arg Arg Gln Glu Gly Ser Ile Glu Val Tyr Glu Asp Ala Gly Ser His
50 55 60
Tyr Leu Cys Leu Leu Lys Ala Arg Thr Arg Asp Ser Gly Thr Tyr Ser
65 70 75 80
Cys Thr Ala Ser Asn Ala Gln Gly Gln Val Ser Cys Ser Trp Thr Leu
85 90 95
Gln Val

<210> 33
<211> 82
<212> PRT
<213> Homo sapiens

<400> 33
Val Thr Ala Ser Leu Gly Gln Ser Val Leu Ile Ser Cys Ala Ile Ala
1 5 10 15
Gly Asp Pro Phe Pro Thr Val His Trp Leu Arg Asp Gly Lys Ala Leu
20 25 30
Cys Lys Asp Thr Gly His Phe Glu Val Leu Gln Asn Glu Asp Val Phe
35 40 45
Thr Leu Val Leu Lys Lys Val Gln Pro Trp His Ala Gly Gln Tyr Glu
50 55 60
Ile Leu Leu Lys Asn Arg Val Gly Glu Cys Ser Cys Gln Val Ser Leu
65 70 75 80
Met Leu

<210> 34
<211> 89
<212> PRT
<213> Homo sapiens

<400> 34
Pro Tyr Phe Ser Lys Thr Ile Arg Asp Leu Glu Val Val Glu Gly Ser

1				5					10					15		
Ala	Ala	Arg	Phe	Asp	Cys	Lys	Ile	Glu	Gly	Tyr	Pro	Asp	Pro	Glu	Val	
			20					25					30			
Val	Trp	Phe	Lys	Asp	Asp	Gln	Ser	Ile	Arg	Glu	Ser	Arg	His	Phe	Gln	
		35					40					45				
Ile	Asp	Tyr	Asp	Glu	Asp	Gly	Asn	Cys	Ser	Leu	Ile	Ile	Ser	Asp	Val	
	50					55					60					
Cys	Gly	Asp	Asp	Asp	Ala	Lys	Tyr	Thr	Cys	Lys	Ala	Val	Asn	Ser	Leu	
65					70					75					80	
Gly	Glu	Ala	Thr	Cys	Thr	Ala	Glu	Leu								
				85												